

Common Alerting Protocol (CAP) v. 1.0

Emergency Management
Technical Committee



Summary

- ◆ Purpose
- ◆ History
- ◆ Design Philosophy
- ◆ Data Dictionary
- ◆ Examples
- ◆ Who Is Using CAP?
- ◆ Next Steps
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Purpose

- ◆ Simple and standardized format for exchanging alerts and warnings over various types of networks
- ◆ Compatible with legacy and emerging “transport” methods, such as NOAA National Weather Radio specification and Web Services
- ◆ Flexible geographic targeting
- ◆ Phased and delayed effective times and expirations
- ◆ Message update and cancellation features
- ◆ Facility for including inline digital images and audio

History

- ◆ National Science and Technology Council (NSTC) released “Effective Disaster Warnings” report in November 2000, which recommend standard way to collect and relay warnings
- ◆ International working group of over 130 emergency managers, IT experts, and telecommunications experts convened in 2001 to adopted the specific recommendations and start CAP
- ◆ Drafts used and tested in field demonstrations in Virginia and California in 2002 and 2003
- ◆ CAP 0.7 contributed to EM TC in shortly after formation in 2003
- ◆ CAP 1.0 becomes OASIS Standard in April 2004

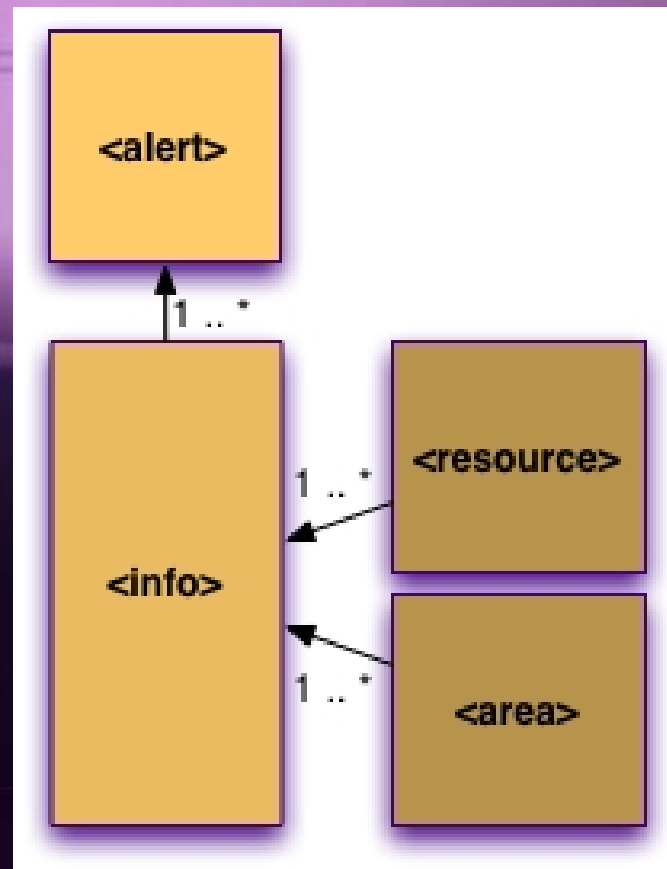
Design Philosophy

- ◆ Interoperability
- ◆ Completeness
- ◆ Simple Implementation
- ◆ Simple XML and Portable Structure
- ◆ Multi-use Format
- ◆ Familiarity
- ◆ Interdisciplinary and International Utility

Data Dictionary

- ◆ Document Object Model
- ◆ <alert> Element
- ◆ <info> Element
- ◆ <resource> Element
- ◆ <area> Element

Document Object Model



<alert> Element

- ◆ Identification containers for alert instances, sender, operator/device, and referencing other alerts or specific incidents
- ◆ Alert metadata for time/date created, status, scope, type, and source
- ◆ Recipient targeting of alert based on restrictions and addresses
- ◆ Implementation specific containers for passwords, handling codes, and exchange of general notes
- ◆ Contains one or more <info> elements

<info> Element

- ◆ Core alert details such as type, urgency, severity, certainty, category, sender's name, headline, and description
- ◆ Recipient data for specific language, intended audience, and targeting based on event code
- ◆ Applicability of alert described by effective time, onsite, and expiration
- ◆ Ability to send corresponding instructions, reference URLs, contact information, or implementation specific parameters
- ◆ Contains one or more <resource> and/or <area> elements

<resource> Element

- ◆ Ability to specify both a human-readable description of the resource as well as the MIME content type
- ◆ Container for specifying the resource's size, in bytes, to aid implementations
- ◆ Provides a URI pointing to the resource and/or a digest (hash) of the resource itself
- ◆ Mechanism for passing a base-64 encoded version of the resource

<area> Element

- ◆ Geographic locations defined using WGS 84 (World Geodetic System 1984), equivalent to EPSG (European Petroleum Survey Group) code 4326 (2 dimensions).
- ◆ Text description of the alert area
- ◆ Ability to describe the effected areas using polygons, circles (point/radius), and/or geocodes
- ◆ Container for providing 3-D geospatial aspects using altitude and ceiling

Examples

◆ Available

- ◆ Weather warnings through National Weather Service
- ◆ Weather and locally applicable warnings for emergency managers within California OES
- ◆ Sharing warnings between sirens, Dialogic, and E-Team application as part of Contra Costa County Community Warning System
- ◆ Disseminating warnings using digital broadcast at NDS
- ◆ Ability to send and receive CAP messages within DMI-Services

◆ Being Considered

- ◆ Advanced EAS Relay Network
- ◆ Gathering all hazards warnings as part of Weather Services HazCollect Project

◆ Potential

- ◆ Intelligent Sensor Systems
- ◆ Situational Awareness

Who Is Using CAP?

- ♦ Blue292 (www.blue292.com)
- ♦ California Office of Emergency Services (www.oes.ca.gov)
- ♦ Capital Wireless Integrated Network, know as CapWIN (www.capwin.org)
- ♦ Comlabs, Inc. (www.comlabs.com)
- ♦ Contra Costa County (CA) Office of the Sheriff, Emergency Services Division
- ♦ Department of Homeland Security (www.dhs.gov)
- ♦ Department of Justice (DOJ) Office of Justice Programs (OJP) (www.it.ojp.gov) through Global Justice XML Data Model (GJXDM) implementation
- ♦ Disaster Management Interoperability Services (www.dmi-services.org)
- ♦ E Team (www.eteam.com)
- ♦ GeoDecisions, Inc. (www.geodecisions.com)
- ♦ Hormann America, Inc. (www.hormannamerica.com)
- ♦ IEM, Inc. (www.ieminc.com)
- ♦ mobileFoundations (www.mobilefoundations.com)
- ♦ MyStateUSA (www.mystateusa.com)
- ♦ National Weather Service (www.weather.gov)
- ♦ NDS, Ltd. (www.nds.com)
- ♦ NTMI, Inc. (www.ntmi.com)
- ♦ Oregon RAINS (www.oregonrains.org)
- ♦ Ship Analytics (www.shipanalytics.com)
- ♦ United States Geological Survey (www.usgs.gov)
- ♦ Virginia Department of Transportation (www.virginiadot.org)
- ♦ Warning Systems, Inc. (www.warningsystems.com)

Next Steps

- ◆ Education and evangelism
- ◆ Refinement of specification based on experience and gathering of public input and comments
- ◆ Integration with broader suite of Emergency Management standards

Resources

- ♦ OASIS Emergency Management TC:
 - ♦ <http://www.oasis-open.org/committees/emergency/>
- ♦ OASIS CAP Implementer Forum Signup:
 - ♦ <http://www.oasis-open.org/mlmanage/index.php>
- ♦ OASIS EM TC Archive:
 - ♦ <http://lists.oasis-open.org/archives/emergency/>
- ♦ OASIS EM TC Public Comment Archive:
 - ♦ <http://lists.oasis-open.org/archives/emergency-comment/>
- ♦ Partnership for Public Warning's (PPW) Uniform Standards for Alerting Working Group (USA-WG) Archive:
 - ♦ <http://www.incident.com/pipermail/usa-wg/>
- ♦ Original Common Alerting Protocol Working Group Archive (CAP-list):
 - ♦ <http://www.incident.com/pipermail/cap-list/>
- ♦ Original CAP Interoperability Testing Archive (CAP-Interop):
 - ♦ <http://www.incident.com/pipermail/cap-interop/>